## Claims

What is claimed is:

1. An automated microarray processing system for fully automated processing of nucleic acid samples and hybridization comprising:

a computer comprising a central processing unit coupled with a memo for executing instructions to control the transporter and liquid handling device;

at least two microarrays;

a microarray transporter;

a liquid handling system;

a refrigerator;

a hybridization oven; and

a sealer and a piercer.

2. The system of Claim 1 wherein the at least two microarrays comprises at least 8 microarrays.

3. The system of Claim 2 wherein the at least two microarrays comprises at least 96 microarrays.

4. The system of Claim 2 or 3 wherein the microarrays are high density oligonucleotide probe arrays.

5. The system of Claim 4 wherein the microarrays are fixed in the wells of a microtiter plate wherein the microarray substrate forms the bottom of the plate.

6. The system of Claim 5 wherein the microarrays are floating in the wells of a microtiter plate.

7. The system of Claim 6 wherein the microarrays are attached on pegs.

8. The system of Claim 1 wherein the microarrays are gene expression arrays.

9. The system of Claim 1 wherein the microarrays are SNP genotyping arrays.

10. The system of Claim 1 wherein the instructions comprise instructions for moving hybridization solutions to the microarrays, performing hybridization, and washing the microarrays.

11. The system of Claim 10 wherein the instructions comprise instructions for performing cDNA synthesis.

12. The system of Claim 11 wherein the instructions comprise instructions for performing in vitro transcription.

13. A method for fully automated parallel processing of a plurality of microarrays comprising:

processing a plurality of nucleic acid samples to generate a label nucleic acid sample ready for hybridization with the microarrays;

hybridizing each of the plurality of nucleic acid samples to one of microarrays; and

washing the microarrays to prepare the microarrays for scanning.

14. The method of Claim 13 wherein the processing comprises performing cDNA synthesis reaction using the nucleic acid samples as templates.

15. The method of Claim 14 wherein the processing comprises performing in vitro transcription using the cDNAs as templates.

16. The method of Claim 15 wherein the processing comprises performing labeling reactions.